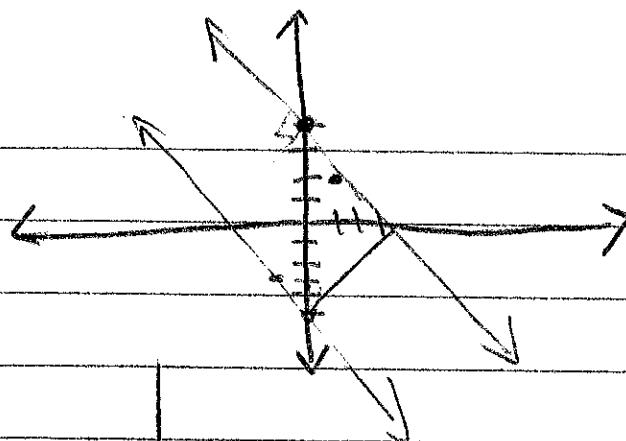


201
36
Extra
practice

① $y = -2x - 5$
 $y = -2x + 4$



$$y = \frac{1}{2}x + 4$$

$$y = -2x - 5$$

$$\frac{1}{2}x + 4 = -2x - 5$$

$$2\frac{1}{2}x = -9$$

$$x = -3.6$$

$$y = 2.2$$

dist b/w $(-3.6, 2.2)$
 $(0, 4)$

$$d = \sqrt{(0 - -3.6)^2 + (4 - 2.2)^2}$$

$$\sqrt{16.2}$$

$$\approx 4.02 \text{ units}$$

$$y = \frac{1}{2}x - 5$$

$$y = -2x + 4$$

$$\frac{1}{2}x - 5 = -2x + 4$$

$$2\frac{1}{2}x = 9$$

$$x = 3.6$$

$$y = -3.2$$

$(0, -5)$ $(3.6, -3.2)$

$$d = \sqrt{(3.6)^2 + (-3.2 - -5)^2}$$

$$12.96$$

$$3.24$$

$$\sqrt{16.2}$$

$$\approx 4.02 \text{ units}$$

$$2. \quad y = \frac{3}{2}x + 4$$

$$y = \frac{3}{2}x - \frac{1}{2}$$

$$y = -\frac{2}{3}x + 4$$

$$y = \frac{3}{2}x - \frac{1}{2}$$

$$-\frac{2}{3}x + 4 = \frac{3}{2}x - \frac{1}{2}$$

$$4\frac{1}{2} = \frac{13}{6}x$$

$$\frac{27}{13} = x$$

$$\frac{34}{13} = y$$

$$\left(\frac{27}{13}, \frac{34}{13}\right)$$

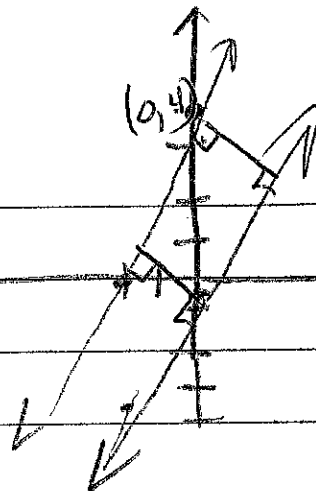
$$(0, 4)$$

$$d = \sqrt{\left(\frac{27}{13}\right)^2 + \left(\frac{34}{13} - 4\right)^2}$$

$$\frac{729}{169} \quad \frac{324}{169}$$

$$\sqrt{\frac{1053}{169}}$$

$$\approx 2.50 \text{ units}$$



$$y = -\frac{2}{3}x - \frac{1}{2}$$

$$y = \frac{3}{2}x + 4$$

$$-\frac{2}{3}x - \frac{1}{2} = \frac{3}{2}x + 4$$

$$-4\frac{1}{2} = \frac{13}{6}x$$

$$-\frac{27}{13} = x$$

$$\frac{23}{26} = y$$

$$\left(-\frac{27}{13}, \frac{23}{26}\right)$$

$$\left(0, -\frac{1}{2}\right)$$

$$d = \sqrt{\left(-\frac{27}{13}\right)^2 + \left(\frac{23}{26} - -\frac{1}{2}\right)^2}$$

$$\frac{729}{169} + \frac{324}{169}$$

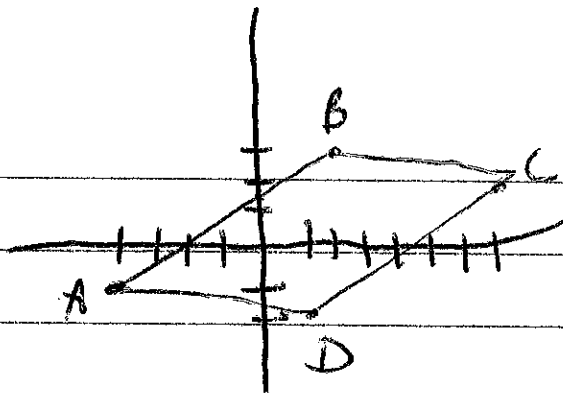
$$\approx 2.50 \text{ units}$$

3. $A(-4, -1)$

$B(2, 3)$

$C(7, 2)$

$D(1, -2)$



$\overleftrightarrow{AB} \quad m = \frac{4}{6} = \frac{2}{3}$

$3 = \frac{2}{3}(2) + b$

$\frac{5}{3} = b$

$y = \frac{2}{3}x + \frac{5}{3}$

1st pt $(0, \frac{5}{3})$

$\overleftrightarrow{DC} \quad m = \frac{2}{3}$

$2 = \frac{2}{3}(7) + b$

$\frac{6}{3} = \frac{14}{3} + b$

$-\frac{8}{3} = b$

$\begin{cases} y = \frac{2}{3}x - \frac{8}{3} \\ y = -\frac{3}{2}x + \frac{5}{3} \end{cases}$

2nd pt $(2, -\frac{4}{3})$

$\frac{2}{3}x - \frac{8}{3} = -\frac{3}{2}x + \frac{5}{3}$

$\frac{13}{6}x = \frac{13}{3}$

$x = 2$

$y = -\frac{4}{3}$

distance
B/w \overleftrightarrow{AB} & \overleftrightarrow{DC}

$= \sqrt{2^2 + \left(\frac{5}{3} - -\frac{4}{3}\right)^2}$

$d = \sqrt{13} \approx 3.61$

This is done differently.

$$\overleftrightarrow{BC} \quad m = \frac{3-2}{2-7} = -\frac{1}{5}$$

$$3 = -\frac{1}{5}(2) + b$$

$$\frac{15}{5} = -\frac{2}{5} + b$$

$$\frac{17}{5} = b$$

⊥

$$\overleftrightarrow{BC} \quad y = -\frac{1}{5}x + \frac{17}{5}$$

$$y = 5x + b$$

$$D(1, -2)$$

~~$$-2 = 5(2) + b$$~~

$$-2 = 5(1) + b$$

~~$$-7 = b$$~~

$$-7 = b$$

~~$$y = 5x - 7$$~~

$$y = 5x - 7$$

$$y = -\frac{1}{5}x + \frac{17}{5}$$

$$y = 5x - 7$$

$$5x - 7 = -\frac{1}{5}x + \frac{17}{5}$$

$$5.2x = 10.4$$

$$x = 2$$

$$y = 3$$

$$(2, 3) (1, -2)$$

$$d = \sqrt{(3 - -2)^2 + (2 - 1)^2}$$

$$25 + 1$$

$$\sqrt{26} \approx 5.10$$

$$B/W \quad \overleftrightarrow{BC} + \overleftrightarrow{AD}$$

4. $A(0, 2)$ $B(4, 7)$

$$M\left(\frac{0+4}{2}, \frac{2+7}{2}\right)$$
$$(2, 4.5)$$

$$m = \frac{5}{4}$$

$$m = -\frac{4}{5}$$

$$4.5 = -\frac{4}{5}(2) + b$$

$$-1.6$$

$$6.1$$

$$y = -\frac{4}{5}x + 6.1$$

